

ABSTRACT OF THE DISCLOSURE

A distributed wireless phase locked loop system for synchronizing the transmit carrier's modulating waveform, such as the transmitter pulse timing in a pulsed EAS system and the transmit sweeping function for swept RF synchronization, is provided. To remove the effect of phase noise on the power line signal, a phase locked loop is used to filter this signal. The
5 filtered output is used as a reference to a second phase locked loop tied to a numerically controlled oscillator and the received signal to provide a distributed phase locked loop algorithm that is wireless, and automatically synchronizes adjacent EAS systems.